An attrition/termination model can indicate the most cost-effective way to reduce headcount.

Reducing Headcount Through Attrition and/or Termination: A Cost-Effective Model

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One of the most difficult and emotionally charged decisions a company faces is whether and how to reduce staff as a result of worsening business conditions. After a decision has been made, the method of headcount reduction—meaning through normal attrition or termination—can have a profound effect on profit.

By using human resource accounting, which provides a method for estimating an employee's economic worth to the company, the cost of headcount reductions can be minimized. In order to determine the extent to which headcount reduction should be accomplished through normal attrition rather than by termination of competent employees, the costs for different combinations of termination and attrition are calculated; thereafter, the company can select the least-cost combination.

A simplified case history will illustrate how attrition/termination model building works and what variables should be considered. The costs vary widely for different levels of employees, for example, hourly or professional, and for different organizations, depending on the mix of technical and managerial employees.

A corporation with 500 professionals has to reduce its operating expenses by 15 percent in order to survive an anticipated business slowdown. Because of fixed overhead, headcount must be cut by 100. It is expected that 400 professionals will be required during each of the three years following the reduction.

Termination costs

Termination costs can be divided into short and long term. The short-term costs, as illustrated by Figure 1, are separation pay, vesting in a stock program, special early retirement, unemployment benefits, accrued vacation, notice, and a miscellaneous category. Together, they equal twelve months of the average annual salary, $15,000, of the employees in the group. For this company, these costs include:

- *Separation pay.* When a professional is terminated, he receives one week of separation pay for each year or part-year of service. The average for the group is two-and-a-half months.
- *Stock vesting.* The company typically contributes 10 percent of an employee's salary in its stock to a retirement fund. If an employee resigns, as much as four years of the company's contributions and the dividends revert to the corporation. If the employee is "terminated without cause," he receives the company's contributions. The cost of vesting due to termination is calculated as three months' salary.
- *Early retirement.* Older employees are provided with a special retirement program, which includes a premium for the difference between what would be their normal retirement income, including social security, and their early retirement income, without social security. The premium, prorated among the entire group, equals three months' salary.
- *Unemployment benefits.* While some terminated employees find new positions quickly, others collect unemployment insurance. These payments increase unemployment insurance rates for the company in the future. The increased rates on active employees are calculated as costing one month's salary per terminated employee.

- *Accrued vacation.* Employees are paid for vacation not yet received as well as all vacation for the following year. It is calculated as costing an additional one month's salary.
- *Notice of termination.* The company provides the employee with two weeks' notice of termination during which no meaningful work is completed.
- *Miscellaneous.* Executives with contracts receive individualized separation pay; an outplacement office helps find jobs; benefits, including medical and life insurance, are continued for three months. The cost is one month's salary.

Figure 1
Termination Costs per Employee

	Months' Salary	*Cost per Employee (Average Salary = $15,000)*
Separation pay	2 1/2	$ 3,125
Stock vesting	3	3,750
Early retirement	3	3,750
Unemployment insurance	1	1,250
Accrued vacation	1	1,250
Notice of termination	1/2	625
Miscellaneous	1	1,250
	12	$15,000

The long-term termination costs, other than the costs associated with lowered employee morale and a less attractive image in the labor market, mostly involve replacement costs. Replacement costs hinge on the company's turnover rate, which has been, and is estimated to be, 10 to 12 percent per year. If headcount were reduced to 400, one would anticipate four employees, or 1 percent, leaving during the following month, requiring the hiring and development of four new employees. These replacement expenses are a part of termination costs since, if employee reductions took place through attrition, those in positions earmarked for elimination could replace others who left.

The cost of hiring compared to internal placement is conservatively calculated at $6,825 and will be described as follows:

- *Cost of hiring.* Professional employees are typically hired through recruiting agencies. The agency fee and the travel expenses incurred for interviews for each candidate are calculated as equaling three months' salary, or $3,750.
- *Relocation.* Many new hires must relocate. The cost of moving,

prorated over all hires, is estimated as equal to one-and-a-half months' salary, or $1,875.

- *Training.* After a new employee is hired, there is a period of adjustment for him, sometimes formal training, and the nonproductive time he spends learning how the new organization operates. The expense incurred for these activities is the difference between the value of the time a present employee and a new employee would require. It is calculated as one month's salary, or $1,250.

Total hiring, moving, and training costs are equal to 5.5-months' salary, or $6,825. The hiring cost would take place in the future. It is assumed that the $6,825 cost per employee in the future has a present value of $6,000. This estimate is based on the assumptions that the average employee would be hired eleven months after the decision to reduce headcount—this would vary depending on how many employees were terminated—and that the cost of money would be 15 percent; stated differently, $6,000 invested today at 15 percent would yield $6,825 in eleven months.

The total average termination cost is consequently $15,000 for termination plus $6,000 for the future cost of replacement, or $21,000.

Attrition cost

While the total termination cost is high, it is also expensive to reduce headcount through attrition. For purposes of illustration, let us assume that the contribution of the 100 professionals who might be terminated is zero. Consequently, the cost of maintaining them on the payroll is $15,000 for salary plus $3,000 for benefits, a total of $18,000 per year.

If we decided to reduce headcount by 10 through attrition and 90 by termination, subsequent turnover would be approximately 4 per month or 1 percent per month turnover on 410 active employees. (For purposes of illustration, turnover is forecast at 4 employees per month, at the end of each month. This is 12 percent per year when the active population is 400 and 9.6 percent per year when the active population is 500.) The cost of attrition would be calculated as follows: Four leave after one month, requiring four man-months' salary; an additional four leave after two months, requiring eight man-months' salary; and two leave after three months at a cost of six man-months' salary. Eighteen man-months' salary and benefits at $1,500 per month, or $18,000 per year, is $27,000.

Attrition/Termination Model

With the cost of termination calculated as $21,000 per professional, and the cost of attrition calculated at $1500 per month per professional until attrition provides openings, the total cost of any combination of attrition and termination can be determined as illustrated by Figure 2.

Figure 2
Attrition/Termination Alternatives

Termination	*Attrition*	*Termination Cost*	+	*Attrition Cost*	=	*Total Cost*
100	0	$2,100,000		$ 0		$2,100,000
90	10	1,890,000		27,000		1,917,000
80	20	1,680,000		90,000		1,770,000
70	30	1,470,000		192,000		1,662,000
60	40	1,260,000		330,000		1,590,000
50	50	1,050,000		507,000		1,557,000
40	60	840,000		720,000		1,560,000
30	70	630,000		972,000		1,602,000
20	80	420,000		1,260,000		1,680,000
10	90	210,000		1,587,000		1,797,000
0	100	0		1,950,000		1,950,000

Let us take an example. Ninety professionals are terminated and ten are reduced through attrition. The total cost is equal to the termination cost plus the attrition cost. The termination cost is calculated by multiplying the cost of terminating one professional, which is $21,000, by ninety professionals, which equals $1,890,000. The attrition cost for ten professionals has been previously calculated at $27,000. The formula is:

$$\begin{aligned}\text{Total Cost} &= \text{Termination Cost} + \text{Attrition Cost}\\ &= \$1{,}890{,}000 + \$27{,}000\\ &= \$1{,}917{,}000\end{aligned}$$

By reviewing the different combinations, it appears that the best decision, taking no other variables into account, is to terminate 50 and permit 50 to leave through attrition. The cost would equal $1,557,000, which is $543,000 less than terminating 100 professionals. This is a significant cost reduction.

Stated simply, if it were to cost $21,000 to terminate a professional, it would be worthwhile to use up to $21,000 for his salary and benefits until he either replaced someone else or left on his own as part of normal attrition. If he were partially productive, it would be worthwhile to wait longer.

Some of the assumptions in the model need to be discussed because they may not be valid for other organizations. The assumptions concern the performance of terminated professionals, the extent to which openings resulting through attrition may be filled internally, the contribution of red-circled jobs, and the impact of terminating employees on other corporate goals.

Beginning with the performance of professionals considered for termination, it is important to note that incompetent professionals were continually weeded out. If this were not the case, and more than fifty were identified as being in this category, additional professionals would be terminated.

The fifty professionals selected to replace from within other employees who left were not considered as below average in performance. It seems that, aside from incompetents, functions rather than individuals are usually reduced for headcount purposes. Typically, staff positions and other "nonessential" departments are reduced before line functions cut headcount. Consequently, the performance of those lost through attrition was thought to be similar to that of the professionals who might have been terminated.

A second assumption was that virtually all professionals in "red-circled" jobs could be used to fill other positions as openings occurred. When termination decisions were made, individuals without potential to move into other departments were terminated ahead of those who could easily be transferred. If only a small percentage of professionals could be transferred, the model would be changed toward terminating a higher proportion of the total planned reduction. Normal attrition would not open positions that could be filled internally quickly enough.

A third assumption was that professionals earmarked for termination, but leaving through attrition, would produce absolutely no additional value for the organization. This is a very conservative assumption since one would have to wonder why these professionals were ever on the payroll. If they were considered to be capable of producing one-half of their salary, work with a value equal to the model could be easily modified to account for it, and a higher proportion of professionals would leave through attrition.

A fourth assumption was that the impact on other corporate goals would be minimal. These goals included attracting the highest caliber professionals in the future and retaining valuable incumbents. While no research was conducted to evaluate it, the author believes that a headcount termination has a negative impact on at-

tracting the highest caliber professional. He has too many other opportunities to choose from. It was also felt that the termination process could, in the future, result in qualified professionals going elsewhere when more opportunities existed. The termination process could sometime in the future affect their decision to leave. If this variable is considered, a higher proportion would be reduced through attrition.

The main point is that if we consider the value of a professional in terms of both the cost of termination and the present value of the cost of eventually replacing him, a strong case can be made for reduction of headcount through attrition. This is true even when many important qualitative factors are not considered, such as morale, the manpower needs arising out of the unforeseen improvement in business conditions, corporate image, and corporate concern for the well-being of its employees.

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